

YUKHMANOVA, T.S. inzhener; MORDVINIKH, N.A., inzhener, redaktor; BRAYLOVSKIY,  
N.S., inzhener, redaktor; VERINA, G.F., tekhnicheskii redaktor

[Progressive work methods in railroad car economy] Peredovye metody  
truda v vagonnom khoziaistve. Moskva, Gos. transp. zhel-dor. izd-vo,  
1956. 283 p. (MIRA 10:2)

(Railroads--Cars)

YUKHNEVA, N.V.

Working class movement in Petersburg in 1901.

The following dissertations were defended in the Institute of Archeology,  
Candidate of Historical Sciences.

Vestnik Akad Nauk, No. 4, 1963, pp. 119-115

YUKHNEVA, V.S.

YUKHNEVA, V.S.

Yearly feeding cycle of the Taz whitefish *Coregonus sardinella* Val.  
Zool.zhur.34 no.1:158-161 Jan-F '55. (MIRA 8:3)

1. laboratoriya gidrobiologii Or'-Tazovakogo otdeleniya VNIORKh.  
(Taz Bay--Whitefishes) (Fishes--Food)

YUKHNEVICH A S

A. S. YUKHNEVICH

Разработка технических решений по передаче по радиотелеграфу сигналов управления с помощью радиотелеграфа.

Г. В. Виноградов

Изобретение относится к области техники связи, управления и связи.

Н. Н. Жданов

Изобретение относится к радиотелеграфу и радиотелеграфной связи, а также к радиотелеграфу и радиотелеграфной связи.

12 стр.

(с 10 до 15 часов)

А. В. Горюнов

Н. Н. Жданов

Изобретение относится к радиотелеграфу.

А. В. Горюнов

Н. Н. Жданов

Изобретение относится к радиотелеграфу.

Р. А. Кузнецов

Изобретение относится к радиотелеграфу и радиотелеграфной связи, а также к радиотелеграфу и радиотелеграфной связи.

20

12 стр.

(с 10 до 15 часов)

Г. В. Виноградов

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А. С. Юсупов

Изобретение относится к радиотелеграфу и радиотелеграфной связи, а также к радиотелеграфу и радиотелеграфной связи.

Н. Н. Жданов

Изобретение относится к радиотелеграфу и радиотелеграфной связи, а также к радиотелеграфу и радиотелеграфной связи.

А. С. Юсупов

Резюме: С. Н. Жданов

9 стр.

(с 10 до 15 часов)

В. Г. Калашов

А. С. Юсупов

Изобретение относится к радиотелеграфу и радиотелеграфной связи, а также к радиотелеграфу и радиотелеграфной связи.

Ю. Н. Сорокин

Изобретение относится к радиотелеграфу и радиотелеграфной связи, а также к радиотелеграфу и радиотелеграфной связи.

20

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications in A. S. Paper (YUKHNEVICH), Moscow, 3-12 June, 1957

I 18495-65 SWS(t)/ETT(m)/SMP(t) A.G.(t) AFM U.S.S.R.  
SD(t)/ICP(o) 00  
ACCESSION NF: AP9000674 017

AUTHOR: Ivanov, Yu. L.; Yukhnovich, A. V.

TITLE: Radiative recombination in Si and Ge under  
defects 27

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966.

TOPIC TAGS: recombination, radiative recombination, radiation, silicon, germanium, radiation effect, radiation defect, p-n junction

ABSTRACT: The present paper reports on the experimental study of recombination radiation from impurity regions of p-n junctions irradiated by gamma rays and fast neutrons.



L 18395-65

ACCESSION NR: AP5000674

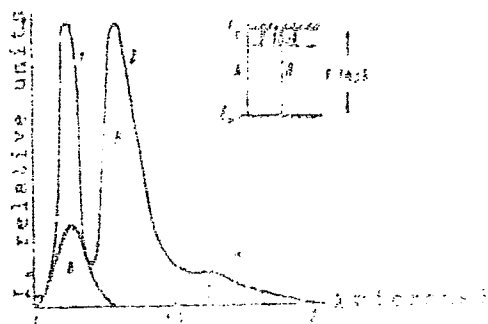


Fig. 1. Recombination curve of the brom of Si

1 - Before irradiation; 2 - after irradiation; A - intrinsic recombination.

Core 3/4

L 18395-65

ACCESSION NR: AF5000671

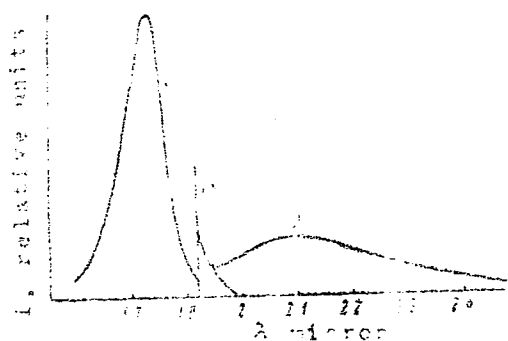


Fig. 2. Perombination radiation of Be.

1 - Before irradiation; 2 - after exposure to fast neutron radiation.



- 24166-95

ACCESSION NR: A75003469

excited level of the A-center. Assuming a phonon-  
excited level of the hole is located 0.025 eV above  
valence band. The radiation with a maximum at 0.85  
apparently during the recombination of a hole with  
0.017 eV level with a phonon energy of 0.025 eV.

1974-66 EWT(1)/EWT(m)/EPF(c)/EPF(n)-2/1/EPF(t)/EPF(b)/ERA(c) 13P(c) JD/CC

1. The first part of the document discusses the importance of maintaining accurate records of all activities and the need for a systematic approach to data collection and analysis. It emphasizes the role of the research team in ensuring the integrity and reliability of the data.

2. The second part of the document describes the methodology used in the study, including the selection of subjects, the design of the experiments, and the procedures for data collection and analysis. It details the steps taken to minimize bias and maximize the validity of the results.

3. The third part of the document presents the results of the study, including the data collected and the conclusions drawn from the analysis. It discusses the implications of the findings and the need for further research in this area.

4. The fourth part of the document discusses the limitations of the study and the need for caution in interpreting the results. It also addresses the ethical considerations involved in the research and the steps taken to ensure the protection of the subjects.

5. The fifth part of the document provides a summary of the findings and a final conclusion. It emphasizes the importance of the research and the need for continued efforts to improve our understanding of the phenomena being studied.

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).

Prussian State University, Bonn (Germany)

(8) *Final version* (1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 267

[illegible][illegible]

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470 100 100 100

with one previous history of the same  
crystals differ noticeably from the  
files and temperatures. No correlation  
tion of the single crystals and the  
of the emitters responsible for  
is recombination radiation in crystals  
files. The authors are grateful to  
one with the experiment. Original has

470 100 20/ SUBM DA

470 100

ACC NR: AP6036960

(A,N)

SOURCE CODE: UR/0181/66/008/011/3213/3217

AUTHOR: Yukhnovich, A. V.; Tkachev, V. D.; Bortnik, M. V.

ORG: Belorussian State University im. V. I. Lenin, Minsk (Belorusskiy gosudarstvennyy universitet)

TITLE: Annealing of bands of impurity recombination radiation in silicon irradiated with gamma quanta

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3213-3217

TOPIC TAGS: recombination radiation, radiative recombination, semiconductor carrier, gamma irradiation

ABSTRACT: The isochronous annealing of infrared radiation bands arising in silicon from the radiative recombination of excess carriers across the levels of radiation defects was studied. In the 25-600°C range, the successive appearance and disappearance of various bands was observed, indicating a complex character of the rearrangement of defects during annealing. The results obtained show an important role of oxygen in the formation of recombination centers in silicon upon irradiation with gamma quanta. On the other hand, this recombination radiation is a good indicator of low oxygen concentrations, and can be used to determine the latter. Thus, recombination radiation can be used as a means of studying the radiation defects of silicon and processes of their rearrangement during heat treatment. Nine different "radiating" radiation defects were observed, and the kinetics of their annealing showed the struc-

Card 1/2

ACC NR: AP6036960

ture of stable radiation defects to be complex. Oxygen atoms are an integral part of most of the radiation defects responsible for the observed bands of impurity recombination radiation. Phosphorus atoms participate in the formation of centers radiating D and E bands, and boron atoms take part in the formation of centers radiating F and I<sub>3</sub> bands. The majority recombination centers (determining the lifetime of excess carriers) are annealed at 400-500°C. They are also linked to oxygen and are centers of nonradiative recombination. The intensity and energy distribution of the various bands of recombination radiation of silicon containing radiation defects and subjected to heat treatment permit an analysis of the content of chemical impurities in the initial single crystals. Both active (boron, phosphorus) and inactive impurities (oxygen) can thus be analyzed. Authors thank Z. M. Afanas'yev and P. S. Solov'yev for their systematic assistance in the course of the experiments. Orig. art. has: 1 figure and 1 table.

SUB CODE: 20/ SUBM DATE: 21Mar66/ ORIG REF: 006/ OTH REF: 008

Card 2/2

L 27360-66 Int(G/EWP(t)/ETI LIP(s) JO

ACC NR: AP601119

SOURCE CODE: 11

AUTHORS: Semenko, A. N.; Tkachenko, V. I.  
Vasilenko, A. I.

ORG: Belarusian State University im. S. N. Shchukin  
(Minsk gosudarstvennyy universitet)

TITLE: Investigation of the influence of the  
electric properties of silicon with radiation

JOURNAL: AN BSR. Doklady, v. 16, no. 1, 1971

KEYWORDS: silicon, single crystal, radiation  
effects, photoelectric properties, metal defect

ABSTRACT: The purpose of the investigation is the study of the stability of different radiation damage levels in single crystal silicon when irradiated with electron beams. The material was p-type silicon with resistivity  $\rho = 10^{-2} \text{ ohm-cm}$  and  $10^{-3} \text{ ohm-cm}$  oxygen. The irradiation was carried out at a Van de Graaff generator at 300 and 1000 kV. The change in photoconductivity was plotted as a function of the dose.

Card

1/



L 27360-66

ACC NR: AP6011529

A. F. Plotnikov et al. (PTE, no. 3, 181, 1961).  
samples whose photoconductivity spectrum displayed  
after the cessation of the irradiation, acquired  
after prolonged storage at liquid-nitrogen tempera-  
ture. It is attributed to diffusion of the vacancy pairs resulting from  
bombardment. An increase in the temperature after  
the bombardment causes the point defects due to the  
annealing. The results are interpreted and a reaction  
scheme of the defects. A quantitative interpretation  
is made difficult by the presence of different types of defects  
which can become transformed into each other during  
annealing. Part. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 14Jun55/ ORIG REF: 0

Card

2/2

L 28001-66 SPF(n)-2/EWT(1)/EWT(m)/EWP(t)/ET: 1/1/66  
ACC NR: AF6012-96 SOURCE CODE: 1/1/66

AUTHOR: Yuhnevich, A. V.; Tkachev, V. D.

ORG: Belorussian State University Im. V. I. Lenin, Minsk  
universitet)

TITLE: Optical analog of the Mossbauer effect in silicon

SOURCE: Fizika tverdogo tela, v. 6, no. 4, 1964, 1964-1964

TOPIC TAGS: silicon, Mossbauer effect, recombination, radiation damage, single crystal

ABSTRACT: This is a continuation of earlier studies of single-crystal silicon containing stable radiation damage with characteristic lines having a width of  $\sim 10^{-4}$  eV. In the present investigation, the recombination bands occurring in silicon during the course of nonequilibrium carriers were produced in n-type silicon by electric injection through a diffused p-n junction. The analysis was carried out with a measurement of the photoluminescence with a dose of  $1 \times 10^{18}$  photons/cm<sup>2</sup> (rays of  $^{60}\text{Co}$ ) was in vacuum of  $10^{-4}$  mm Hg. Five different bands disappeared simultaneously during the course of the experiment. These bands were observed in the earlier investigations.

Card 1/2

L 28001-66

ACC NR: AP6012496

served bands and of the temperature dependence of the components with the published data leads to the conclusion that is an optic analog of the Mossbauer effect in silicon. Each band has a narrow line adjacent to a pronounced maximum. The narrow lines are due to phonons within the centers, and the long-wave components are due to emission of acoustic phonons. The appearance of the evidence of the complex nature of the centers. The authors request for help with the preparation for the experiment. Original table.

SECRET

SUB CODE: 20/ SUBM DATE: 04-05-65 GAI. REF. 0-4

Cora 2/2 C 3

AUTHORS:

Babushkin, A. A., ~~Yukhnovich~~, G. V.,  
Berezkina, Yu. V., Spitsyn, V. I.

SOV/48-22-9-35/40

TITLE:

Spectroscopic Investigations of the Structure of Some  
Complex Compounds (Spektroskopicheskiye issledovaniya  
stroyeniya nekotorykh kompleksnykh soyedineniy) 3. In-  
fluence of Water on the Structure of Para- and Meta-  
Sodium-Tungstenates (3. Vliyaniye vody na stroyeniye  
para- i metavol'framatov natriya)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958,  
Vol 22, Nr 9, pp 1134 - 1135 (USSR)

ABSTRACT:

This is a condensation of the paper published under  
the above subtitle Nr 3 in the "Izvestiya Akademii nauk  
SSSR" by A.A.Babushkin. It covers the investigation  
of the infrared absorption spectra of paratungstenates  
( $5\text{Na}_2\text{O} \cdot 12\text{WO}_3$ ) with a composition of  $28 \text{H}_2\text{O}$ ,  $19 \text{H}_2\text{O}$ ,  $9 \text{H}_2\text{O}$ ,  
 $4 \text{H}_2\text{O}$ ,  $2 \text{H}_2\text{O}$  and of water-free tungstenate. Two ranges,  
that of the valence- and deformation oscillations of the  
tungstenate ion ( $700 - 1700 \text{ cm}^{-1}$ ) and that range

Card 1/2

Spectroscopic Investigations of the Structure of Some SOV/48-22-9-35/40  
Complex Compounds. 3. Influence of Water on the Structure of Para- and  
Meta-Sodium-Tungstenates

(3000 — 3800  $\text{cm}^{-1}$ ) which is especially favorable for a study of the aqueous state were investigated. Besides, the absorption spectra of meta-sodium-tungstenate ( $\text{Na}_2\text{W}_{13}\text{O}_{43}$ ) with a composition of 10  $\text{H}_2\text{O}$ , 7  $\text{H}_2\text{O}$ , 2  $\text{H}_2\text{O}$  and of a water free meta-sodium-tungstenate were studied. A comparison of the results of the investigation of various hydrates of para- and meta-tungstenates permits a joint treatment. An immediate connection between the coordination of the water in the complex and the anion structure of the isopoly compounds was established to exist. A modification of the water coordination at a dehydration leads to an alteration of the structure of the anion. The maintenance of a stable coordination of the water does not lead to an alteration of the structure of the complex. There are 2 figures.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute  
Card 2/2 of Physical Chemistry, AS USSR)

YUKHNEVICH, G. V.

BABAD-ZAKHRYAPIN, A. A.; YUCHNEVICH, G. V.

"Some Problems of Iso- and Heteropoly-Compounds Crystal Chemistry"

a report presented at Symposium of the International Union of Crystallography  
Leningrad, 21-27 May 1959

5(4)

AUTHORS:

Babushkin, A. A., Yukhnovich, G. V., Berezkina, Yu. P.,  
Spitsyn, Vikt. I.

SOV/76-4-4-19/44

TITLE:

Investigation of the Effect of Water on the Structure of Sodium Para-tungstate and Sodium Meta-tungstate Using the Method of Infra-red Absorption Spectra (Issledovaniye vliyaniya vody na stroeniye para- i metavol'framatov natriya metodom infekrasnykh spektrov pogloshcheniya)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 4, pp 823-829 (USSR)

ABSTRACT:

The authors investigated the effect of water upon the structure of sodium para and meta tungstate and the type of bonding of the water in the anions of these compounds. The infra-red absorption spectra of sodium para and meta tungstate were plotted for different water contents using the IKS-1 spectrophotometer with sodium chloride and lithium fluoride prisms. The infra-red absorption spectra for sodium para-tungstate with  $28\text{H}_2\text{O}$ ,  $19\text{H}_2\text{O}$ ,  $9\text{H}_2\text{O}$ ,  $4\text{H}_2\text{O}$ ,  $2\text{H}_2\text{O}$  and  $0.2\text{H}_2\text{O}$  per molecule of  $\text{Na}_{10}\text{W}_{12}\text{O}_{41}$  as well as the anhydrous para-tungstate were investigated. The investigation was carried out over the spectral ranges 700-1700  $\text{cm}^{-1}$ .

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SOV/78-4-1-19/11

Investigation of the Effect of Water on the Structure of Sodium Para-tungstate and Sodium Meta-tungstate Using the Method of Infra-red Absorption Spectra

and  $3000-3800\text{ cm}^{-1}$ . For sodium para-tungstate hydrates in the transition from  $19\text{H}_2\text{O}$  to  $9\text{H}_2\text{O}$  a marked change in the structure of the coordination water and in the structure of the anions occurred. The structures of the hydrates of the sodium meta-tungstate remained unchanged. Using spectroscopic methods and isotope exchange of hydrogen against deuterium it was found that in the sodium para-tungstate with  $28\text{H}_2\text{O}$  three forms of the

coordination water exist. One of these forms is present as the hydroxyl group, which is bound directly to the tungsten atom. Likewise in the hydrates of the sodium meta-tungstate there is a form of the coordination water as the hydroxyl group bound directly to the tungsten atom. Infra-red absorption spectra of sodium meta-tungstate were plotted for  $10.7$  and  $2\text{H}_2\text{O}$  and the anhydrous sodium meta-tungstate in the ranges of  $3000-$

$3800\text{ cm}^{-1}$  and  $1300-600\text{ cm}^{-1}$ . These are shown in figures 4 and 5. These spectra show that there is no difference between the absorption spectra of these hydrates of sodium meta-tungstate.

Card 2/3



Investigation of the Effect of Water on the Structure of Sodium Para-tungstate and Sodium Meta-tungstate Using the Method of Infra-red Absorption Spectra

SOV/78-4-4-19/44

No specific absorption was found for the anhydrous sodium meta-tungstate in the range 3000-3800  $\text{cm}^{-1}$ . The differences in the optical densities of the various hydrates are shown in a table. A further table gives the wave numbers ( $\text{cm}^{-1}$ ) of the absorption maxima of the hydrates of sodium meta-tungstate. There are 5 figures, 2 tables, and 8 references, 4 of which are Soviet.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences, USSR)

SUBMITTED: January 13, 1958

Card 3/3

5(4)

AUTHOR: Yukhnevich, G. V.

SOV/78-4-6-42/44

TITLE: On the Problem of the Nature of Water Contained in Sodium Parawolframato (K voprosu o prirode vody vkhodyashchey v paravol'framat natriya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 6, pp 1459 - 1460 (USSR)

ABSTRACT: It is assumed that 10-oxonium ions are contained in sodium-parawolframato. The formula  $\text{Na}_{10}\text{W}_{12}\text{O}_{46}(\text{OH})_{10} \cdot 13\text{H}_2\text{O}$  is suggested with respect to their existence for  $\text{Na}_{10}\text{W}_{12}\text{O}_{41} \cdot 28\text{H}_2\text{O}$ . The unstable oxonium ions are destroyed by the dehydration of sodium-parawolframato. Infrared spectra of this compound were taken and given in figures 1 and 2. Thus the existence of the oxonium ions was confirmed. The dehydration process of sodium-parawolframato was discussed. There are 2 figures and 6 references, 3 of which are Soviet.

SUBMITTED: February 3, 1959  
Card 1/1

YUKHNEVICH, G.V.; BABUSHEIN, A.A.; KOLLI, I.D.

Influence of water on the structure of potassium silicotungstate. Zhur.neorg.khim. 5 no.5:1176-1177 My '60.  
(MIRA 13:7)

1. Institut fizicheskoy khimii Akademii nauk SSSR. Kafedra neorganicheskoy khimii khimicheskogo fakul'teta Moskovskogo gosudarstvennogo universiteta.  
(Potassium silicotungstate)

S/078/60/005/009/039/040/XX  
B017/B058

AUTHOR: Yukhnevich, G. V.

TITLE: Composition of the Thermal Decomposition Products of Some  
Aquo- and Heteropoly Compounds

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 9,  
pp. 2132 - 2134

TEXT: The composition of the thermal decomposition products of some aquo- and heteropoly compounds was studied by means of infrared spectroscopy. The spectra were recorded by the ultraspectroscope MKC-1 (IKS-1) in the spectral range of from  $650\text{ cm}^{-1}$  to  $1300\text{ cm}^{-1}$ . The spectra of the compounds  $\text{WO}_3$ ,  $\text{WO}_3 \cdot \text{H}_2\text{O}$ ,  $\text{WO}_3 \cdot 2\text{H}_2\text{O}$ ,  $\text{Na}_2\text{WO}_4 \cdot 2\text{H}_2\text{O}$ ,  $\text{K}_2\text{WO}_4$ , and  $\text{Na}_2\text{W}_2\text{O}_7$ , as well as those of the corresponding decomposition products, resulting at  $700^\circ\text{C}$ , were recorded. All samples were studied in the form of oil emulsions. The recording sensitivity of the spectra amounts to  $\pm 1.5\text{ cm}^{-1}$ . The results of the study are summarized in Figs. 1 and 2 and tabulated. It follows from

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Composition of the Thermal Decomposition  
Products of Some Aquo- and Heteropoly Com-  
pounds

S/078/60/005/009/039/040/XX  
B017/B058

the results that the simple tungstates may be divided into three groups:

- 1)  $WO_3$ ,  $WO_3 \cdot H_2O$ ,  $WO_3 \cdot 2H_2O$  with wide bands between 600 to 900  $cm^{-1}$ ;
- 2)  $Na_2WO_4 \cdot 2H_2O$ ,  $K_2WO_4$  with intensive band at 810  $cm^{-1}$ , a weaker one at 925  $cm^{-1}$ ;
- 3)  $Na_2W_2O_7$  with nine distinct narrow bands.

On the basis of spectral analyses of thermally treated samples, statements on their structure can also be made. The decomposition products of sodium tungstate and potassium silicotungstate are not a simple mechanical mixture of  $WO_3$ ,  $Na_2WO_4$ , and  $Na_2W_2O_7$ . The spectra of the decomposition products of sodium metatungstate and potassium silicotungstate show great similarity with the spectrum of tungsten trioxide. The spectra of the decomposition products of sodium paratungstate and sodium ditungstate, obtained at 700°C, are almost similar. The author thanks Vikt. I. Spitsyn for the theme of the study. There are 2 figures, 1 table, and 9 references: 6 Soviet, 1 Swedish, 1 British, 1 Danish, and 1 Swiss.

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Composition of the Thermal Decomposition  
Products of Some Aquo- and Heteropoly  
Compounds

S/078/60/005/009/039/040/XX  
B017/B058

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo  
Akademii nauk SSSR (Institute of Geochemistry and Analytical  
Chemistry imeni V. I. Vernadskiy of the Academy of Sciences  
USSR)

SUBMITTED: March 25, 1960

Card 3/3

YUKINEVICH, G.V.

Hydroxonium ions in heteropolyacids. Zhur. neorg. khim. 6 no.1:231-  
233 '61. (MIRA 14:2)

1. Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo  
AN SSSR.

(Oxonium compounds—Spectra)

(Silicotungstic acid—Spectra)

YUKHNEVICH, G.V.

State of the water in hydrated potassium silicotungstate. Zhur.  
neorg. khim. 6 no.1:233-234, '61. (M A 14:1)

1. Institut geokhimi i analiticheskoy khimii im. V.I. Vernadskogo  
AN SSSR.

(Potassium silicotungstate)



BINZBURG, I.V.; YUKHNEVICH, G.V.

Hydroxonium ion in amphibolites [with summary in English].  
Geokhimiia no.1:30-36 '62. (MIRA 15:2)

1. Mineralogical Museum A.E.Fersman of the Academy of Sciences,  
U.S.S.R. and V.I.Vernadski Institute of Geochemistry and Analytical  
Chemistry, Academy of Sciences, U.S.S.R.  
(Oxonium ion)(Amphibolites)

YUKHNEVICH, G.V.; SENDEROV, E.E.

Study of the water condition in some zeolites. Geokhimiia no.1:  
48-57 Ja '63. (MIRA 16:9)

1. Vernadsky Institute of Geochemistry and Analytical Chemistry,  
Academy of Sciences, U.S.S.R., Moscow.  
(Zeolites)

AKHMANOVA, M.V.; KARYAKIN, A.V.; YUKHNEVICH, G.V.

Determination of hydroxyl groups in silicate minerals using  
the infrared spectra method. Geokhimiia no.6:581-585 Je '63.  
(MIRA 16:8)

1. Vernadsky Institute of Geochemistry and Analytical  
Chemistry, Academy of Sciences, U.S.S.R., Moscow.

YUKHNEVICH, G.V.

Advances in the use of infrared spectroscopy for OH-band  
characteristics. Usp.khim. 32 no.11:1397-1423 # '63.

(MIRA 17:3)

YUKHNEVICH, G.V.; MARYAKIN, A.V.

Relationship between the valence vibration frequencies of water molecules and the hydrogen bonding energy. Dokl. AN SSSR 156 no. 3:681-684 '64. (MIRA 17:5)

1. Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo AN SSSR. Predstavleno akademikom A.P.Vinogradovym.

SENAROT, S.V.; YOUNG, J. S. S.V.

1. Institute of Economics and Statistics  
AN SSSR, Moscow.

YUKHNEVICH, G.V.; KARYAKIN, A.V.; PETROV, A.V.

Vibrational spectra of water in solutions. Zhur. prikl.  
spekt. 3 no. 2:142-150 Ag '65. (MIRA 18:12)

1. Submitted Sept. 5, 1964.

YUKHNEVICH, G.V.

Spectral study of the state of water in crystalline hetero-  
polycompounds of tungsten and molybdenum. Zhur. prikl.  
spekt. 3 no. 6:516-524 D '65 (MIRA 19:1)

1. Submitted July 31, 1964.



YUKHNEVICH, K.G., inzh., IL'Y-SHENKO, A.A., inzh.

Analyzing the dynamics of the main shaft line of the hydraulic transmission for diesel locomotives and trains. Vest. TSNII MPS 23 no.7:18-22 '64. (MIRA 18:3)

1. Kaluzhskiy mashinostroitel'nyy zavod.

YUKHNEVICH, L.A.

Biological data on the blister beetle *Mylabris monozona* Wall. with  
a description of the triangulin stage. Izv. AN Kazakh. SSR, Ser. zool.  
no. 9:108-118 '50. (MLRA 9:5)

(Blister beetles)

YUKHNEVICH, L.A.

Biology and destructiveness of the summer-chafer (*Amphimallon solstitialis* Gebl.) and the cockchafer (*Polyphyla irrorata* L.) in the state forest nursery at Dzhambul. Izv. AN Kaz. SSR no. 125: 140-145 '53. (MIRA 6:12)

(Dzhambul--Beetles) (Beetles--Dzhambul)

YUKHNEVICH, L.A.

Materials on the biology of blister beetles of the genus *Mylabris* F.  
1775 of southeastern Kazakhstan. Trudy Inst.zool.AN Kazakh.SSR 4:173-  
198 '55. (MIRA 10:1)  
(Alma-Ata Province--Blister beetles)

YUKHNEVICH, L.A.

Biology and harmfulness of the greenish elm aphid (*Tinocallis platani*  
Kalt.) Izv. AN Kazakh. SSR. Ser. biol. no.9:84-91 '55 (MIRA 9:4)

(KAZAKHSTAN--PLANT LICE)

YUKHNEVICH, L.A.; MATESOVA, O.Ya.; MITYAYEV, I.D.

Insects and mites, pests of fruit and berries in southeastern and eastern Kazakhstan. Trudy Inst. zool. AN Kazakh. SSR 8:9-38 1985.

(MIRA 11:6)

(Kazakhstan--Insects, injurious and beneficial)  
(Fruit--Diseases and pests)

Annotated list of 196 species of insects (Orthoptera - 1, Proboscidea - 61, beetles - 61, Hymenoptera - 5, Lepidoptera - 68) and 3 species of Acarids. On the basis of published data, a list of 60 species of harmful insects and 3 species of Acarids is presented.

USSR/General and Specialized Zoology - Insects. Harmful  
Insects and Acarids. Forest Pests.

P

Abs Jour : Ref Zhur Biol., No 6, 1959, 25524

Author : Yukhnevich, L.A.

Inst : Institute of Zoology, AS KazSSR

Title : Insects and Acarids - Pests of Elm Trees in Southern  
and Southeastern Kazakhstan

Orig Pub : Tr. In-ta zool. AN KazSSR, 1958, 8, 98-111

Abstract : The elm (E) family trees do not grow in wild state in  
Southern and Southeastern Kazakhstan; all their plan-  
tations are artificial. In 1952-1953, groves, parks,  
nurseries, field-protective belts, plantations in popu-  
lated localities, plantations for the protection of life  
were examined. 62 insect species and 7 acarid species  
were registered on the elm trees. Some species were new.

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USSR/General and Specialized Zoology - Insects. Harmful  
Insects and Acarids. Forest Pests.

P

Abs Jour : Ref Zhur Biol., No 6, 1959, 25524

For the first time, a number of trees of the elm family were marked off as fodder plants. According to the degree of harmfulness, the following insects possess great significance: the gall mite (*Eriophyes* sp.); the greenish elm. the red-gal and non-migratory aphids; the smooth-leaved elm leaf beetle, the elm curved-antenna moth; the mulberry and elm geometrids. The character of damage to individual species of E is different. The pinnate-branched elm is damaged more than others; in the south of Kazakhstan, the dense elm; in the eastern part, the smooth-leaved elm. The wych elm and the Androsov elm are least subject to infestation. The specific pests of E in Southern and Southeastern Kazakhstan are: the gall mite, the thrips, the elm leafhopper, all the aphid species and the curved-antenna elm moth. -- A.P. Adrianov

Card 2/2



COUNTRY : USSR  
CATEGORY : General and Specialized Zoology. Insects. P  
Biology and Ecology.  
ABS. JOUR. : RZhBiol., No. 23, 1958, No. 105267  
AUTHOR : Yushmanov, L. A.  
INST. : Institute of Zoology, AS Kazakh SSR  
TITLE : In Reference to the Biology of the Flower Blister Beetle  
(Mylabris polymorpha Pall.) with a Description of Triangulin  
ORIG. PUB. : Tr. in-ta zool. AN KazSSR, 1958, 3, 151-154  
ABSTRACT : On the occurrence of blister beetle M. polymorpha in  
eastern Kazakhstan oblast'. The feeding plants of the  
beetles. A detailed description of the triangulin is  
given.

Card: 1/1

*YUKHNEVICH, L.H.*  
PRYANIKOVA, N.A.; YUKHNEVICH, L.A.

Key to the primary larvae of blister beetles of the tribe Mylabrini  
(Coleoptera, Meloidae) in the fauna of the U.S.S.R. Ent. oboz. 37  
no.1:176-182 '58. (MIRA 11:3)

1. Institut zoologii AN KazSSR, Alma-Ata.  
(Blister beetles) (Larvae--Insects)

YUKHNEVICH, L.A.

Biology of the flower blister beetle (*Mylabris polymorpha* Pall.)  
and a description of the triungulin. Trudy Inst. zool. AN Kazakh.  
SSR 8:151-154 '58. (MIRA 11:6)  
(Kazakhstan--Blister beetles) (Larvae--Insects)

USSR/General and Systematic Zoology. Insects. Harmful  
Insects and Acarids. Forest Pests.

P

Abs Jour : Ref Zhur - Biol., No 3, 1959, No 11637

Author : Yukhnevich L.A.  
Inst : Institute of Zoology of AS KazSSR  
Title : On the Biology of *Lytta flavovittata* Ball.  
(Coleoptera, Meloidae) with a Description of the  
Triungulin.

Orig Pub : Tr. In-ta zool. AN KazSSR, 1958, 8, 155-159

Abstract : *L. flavovittata* is familiar only in Southeastern Kazakhstan in the deciduous forests of the foothills of Zayilichniy Alatau, groves and parks. The beetles feed on leaves of the ash tree, elm trees and honeysuckle; mass multiplication of them brings about considerable damage. In the environs of Alma-Ata in 1950, the beetles appeared in the second decade of May; mass emergence and

Card : 1/2

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USSR/General and Systematic Zoology. Insects. Harmful  
Insects and Acarida. Forest Pests.

P

Abs Jour : Ref Zhur - Biol., No 3, 1959, No 11637

mating, in the end of May. Eggs were deposited  
7-8 days after mating in a hole, 5-7 cm. deep,  
preferably in humid and loose soil. On the  
average, the deposit contains 823 eggs. A day  
after oviposition, the female dies. Egg stages  
last 7-8 days. The triungulin's hosts are un-  
known. -- A.P. Adrianov

Card : 2/2

YUKHNEVICH, L.A.

COUNTRY : USSR

CATEGORY : GENERAL & SPEC. ZOOLOGY, INSECTS • Systematics and Faunistics.

ABS. JOUR.: Ref Zhur-Biologiya, No. 2, 1959, No. 6922

AUTHOR : Pryamikova, M.A.; Yukhnovich, L.A.

INST. : Not given

TITLE : Determination Key for First Instar Larvae of Blister Beetles of the Tribe Mylabrini (Coleoptera, Meloidae) in Fauna of the USSR

ORIG. PUB.: Entomol. obozreniye, 1958, 37, No. 1, 176-182

ABSTRACT : Determination tables of triangular lines of Mylabris are given separately for subgenera (9) and species (29).

CARD: 1/1

YUKHNEVICH, L.A.

Insect and mite pests of stone fruit and currants in central and  
northern Kazakhstan. Trudy Inst.zool.AN Kazakh.SSR 11:12-23

'60.

(MIRA 13:11)

(Kazakhstan--Insects; injurious and beneficial)  
(Fruit--Diseases and pests)

YUKHNEVICH, L.A.

New species of aphids (Homoptera, aphidoidea) from southeastern  
Kazakhstan. Trudy Inst.zool.Ak Kazakh.SSR 11:213-222 '60.

(MIRA 1):11)

(Kazakhstan--Plant lice)



MATESOVA, G.Ya.; MITTAYEV, I.D.; YUKHEVICH, L.A.; MARIKOVSKIY, P.I.,  
doktor biol. nauk, prof., otv. red.; ALPEROVA, P.F., tekhn. red.

[Insects and mites, pests of fruit and berry crops in Kazakhstan]  
Nasekomye i kleshchi - vrediteli plodovo-iagodnykh kul'tur Kazakh-  
stana. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi SSR, 1962. 203 p.  
(MIRA 15:12)

(Kazakhstan--Fruit--Diseases and pests)  
(Kazakhstan--Insects, Injurious and beneficial)

MATESOVA, G.Ya.; MITYAYEV, I.D.; YUKHNEVICH, L.A.

Review of insects damaging fruit and berry crops and grapevines  
in southwestern Kazakhstan. Trudy Inst. zool. AN Kazakh. SSR 18:  
3-45 '62. (MIRA 17:3)

YUKHNEVICH, L.A.

Insect pests of stone fruits and currants in Urdzhar and Makanchi  
Districts, Semipalatinsk Province. Trudy Inst. zool. AN Kazakh. SSR  
18:57-60 '62. (MIRA 17:3)

YUKHNEVICH, L.A.

Plant lice Aphidoidea of conifers in central and southeastern  
Kazakhstan. Trudy Inst. zool. AN Kazakh. SSR 18:150-154 '62.

(MIRA 17:3)

YUKHNEVICH, Lidiya Aleksandrovna; MATESOVA, Galina Yakovlevna; MITYAYEV,  
Ivan Dmitriyevich; SHEVCHUK, T.I., red.; ROROKINA, Z.P., tekhn.  
red.

[Orchard and garden pests and measures for their control in  
southeastern Kazakhstan] Vrediteli sadov i ogorodov i mery  
bor'by s nimi; Iugo-Vostochnyi Kazakhstan. Alma-Ata, Izd-vo  
AN Kaz.SSR, 1963. 64 p. (MIRA 16:5)

(Kazakhstan--Insects, Injurious and beneficial--Control)

STUDENTSOV, P.N.; YUKHEVICH, M.L.

Using large wall blocks in building houses in Moscow. Gor. Khoz. Mosk.  
33 no.9:26-30 S '59. (MIRA 12:11)

(Moscow--Concrete slabs)

YUKHNEVICH, S.N.

YUKHNEVICH, S.N.

Synthomycin in the treatment of nongonorrheal and postgonorrheal urethritis. Urologiya 22 no.4:43-47 J1-Ag '57. (MIRA 10:10)

1. Iz mocheopolovogo otdela (zav. - prof. L.R.Leytes) i serobakteriologicheskoy laboratorii (zav. - dotsent M.H.Izrael'son) Odesskogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta imeni Ye.S.Glayche (dir. - dotsent S.I.Matuskov)

(URETHRITIS, therapy,

chloramphenicol in non-gonorrheal & post-gonorrheal cases)  
(CHLORAMPHENICOL, therapeuticuse,

urethritis, non-gonorrheal & post-gonorrheal (Rus))

YUKHNEVICH, V.V., inzhener (g. Shchekino Tul'skoy oblasti).

School use of sites for the study of building. Politekh. obuch no.9:  
28-32 S '57. (MIRA 10:9)

(Building trades--Study and teaching)



YUKHNEVICH, V.V.

Supply cabinet. Politkhn. obruch. no. 5:79, suppl. 11-16 № '59.  
(MIRA 12:7)

(Workshops--Equipment and supplies)

YUKHNFN, B.A.

Production of high purity tin. Biol. TSIEN tsvet. est. no. 5:23-  
26 '58. (MIRA 11:7)

(Tin--Metallurgy)

YUKHNIN, F.V., polkovnik

Broaden the scope of rationalizing and inventive work. Vest.  
protivovozd. obor. no.7:12 J1 '61. (MIRA 14:8)  
(Russia--Air force)

1. YUKHNIN, Ye. I., Eng.
2. USSR (600)
4. Ships Maintenance and Repair
7. Strengthening the hull of a vessel with sheet plating. Rech. transp. 12, No. 5, 1952.
9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

YUKHENIN, Yevgeniy Ivanovich; KITAYEV, V.V., inzhener, retsenzent; BATIN,  
I.A., redaktor; PRUHKIN, P.S., tekhnicheskly redaktor

[Anchor, mooring and towing equipment] Iakornos, shvartovnoe i  
buksirnoe ustroistva. Leningrad, Gos. soiuзное izd-vo sudostroit.  
promyshl., 1955. 141 p. (MLRA 8:7)  
(Anchors) (Towing)

YUKHMEN, Ye.I., inzh.; RABINOVICH, Ya.I., inzh.

Building launches of glass-reinforced plastics. Sudostroenie 25  
no.8:39-42 Ag '59. (MIRA 13:2)  
(Boatbuilding) (Glass reinforced plastics)

8(6)

SOV/91-59-9-4/33

AUTHOR: Gurvich, S.M. and Yukhno, A.B., Engineers

TITLE: Packaged Water Preheating Plants

PERIODICAL: Energetik, 1959, Nr 9, pp 8-10 (USSR)

ABSTRACT: The authors describe two unitized water preheating plants. Until recently, there were no unitized water preheating plants available for preparing feed water for low-power boilers. At the Saratovskiy zavod tyazhelogo mashinostroyeniya (Saratov Plant of Heavy Machine Building) tests of the first prototype of packaged mobile water preheating plants were conducted with success. Such units have an output of 5 tons per hour. Their design is explained in Figure 1. The overall dimensions of these units do not exceed the prescribed dimensions of the USSR RR. The total metal weight is 2780 kg, while the shipping weight is around 6.5 tons. The deaeration of the feed water is to be performed in a separate unit with feed pumps, or in the boiler units. A thermal deaerator is planned.

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SOV/91-59-9-4/33

Packaged Water Preheating Plants

containing all devices required for removing oxygen, carbon dioxide and ammonia. Analogous to this unit, it is planned to manufacture in 1959 a series of unitized water preheating plants having an output of 10 tons per hour. These units are to be used at steam turbine power plants with capacities of 1500 kw. Power plants with capacities of 2250 and 3000 kw will receive two or more units. Based on the scientific research performed by MO TsKTI, a project of a water processing plant was worked out for power plants of 750 and 1500 kw, having an output of 5-10 tons per hour, shown in Figure 2. The processing of the raw water is performed according to the direct flow pressure system. The cationite filters work in series in a two-stage arrangement. The authors describe the function of this unit in some detail. They summarize the advantages of packaged water processing plants: 1) lower expenses for planning water processing equipment; 2) less

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SOV/91-59-9-4/33

Packaged Water Preheating Plants

space is required, 46 m<sup>3</sup> instead of 145 m<sup>3</sup>, and equipment costs are reduced by mass production; 3) equipment is delivered ready for operation with all accessories. There are 2 diagrams.

Card 3/3

GURVICH, S.M., inzh.; YUKHNO, A.B., inzh.

Units for water treatment installations. *Energomashinostroenie*  
6 no.2:38-39 7 '60. (MIRA 13:5)  
(Water--Purification)

YUKHNO, E. Cand Chem Sci -- (diss) "Crystallochemical Study of  
Certain <sup>isomorphous</sup> ~~Polycrystalline~~ Complex Compounds of Nickel (1957)  
Mos, 1957. 12 pp 22 cm. (Mos State Univ im M. V. ~~Lomonosov~~  
Lomonosov, Chemical Faculty), 100 copies (KL, 27 57, 105)

YUKHNOV, E. K., PORAY-KOSHITS, M. A., ANTSISHKINA, A. A., and DIKAREVA, I. M.

"The Atomic Crystal Structure of Complex Acido-Amine Nickel Compounds" (Section 6-21) a paper submitted at the General Assembly and International Congress of Crystallography, 10-19 Jul 57, Montreal, Canada.

C-3,800,189

Institute of General and Inorganic Chemistry, Academy of Sciences (PORAY-KOSHITS, ANTSISHKINA, A. S. and DIKAREVA)

Moscow University Chemical Faculty (YUKHNOV)

AUTHOR: Yukhno, E.K. and Poray-Koshits, M.A. 70-2-6/24

TITLE: The crystal structure of nickel trans-di-isothiocyanotetrammine . (Stroyeniye kristallov trans-diizorodanotetramminnikelya)

PERIODICAL: "Kristallografiya" (Crystallography), 1957, Vol.2, No.2, pp.239-248 (U.S.S.R.)

ABSTRACT: Crystals of  $\text{Ni}(\text{NH}_3)_4(\text{NCS})_2$  are monoclinic with space group  $C2/m$  and unit cell dimensions  $a = 11.46 \pm 0.02$ ,  $b = 8.18 \pm 0.02$ ,  $c = 5.68 \pm 0.02$  KX and  $\beta = 105^\circ$ .  $d_{\text{obs.}} = 1.550$  and  $d_{\text{calc.}} = 1.568$  giving  $Z = 2$ . The compound is paramagnetic with  $\mu = 3.31$  Bohr magnetons. The refractive indices of the crystals in white light are  $n_\gamma = 1.674$ ,  $n_\beta = 1.618$  and  $n_\alpha = 1.561$  and when freshly prepared the crystals are light blue. Retigraph photographs of the zero layer for rotation about  $c$  and for six layers for rotation about  $b$  were taken with  $\text{Mo}$  radiation and the intensities were estimated visually. There were 394 reflections in all, 71 in the  $xy$  projection and 97 in the  $xz$ . As the Ni atoms are fixed by the centering of the cell the Patterson projections gave the structure directly which was refined

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70-2-6/24

The crystal structure of nickel 'trans-di-isothiocyanotetra-  
amine. (Cont.)

until very close agreement between observed and calculated structure factors was obtained. The reliability factors for the hk0 and h0l zones were (including observed zeros) 0.214 and 0.242 respectively. Final co-ordinates (x, y, z) were:-  
Ni (0,0,0); N (0.152, 0, 0.293); C (0.240, 0, 0.462); S (0.358, 0, 0.690); NH<sub>2</sub> (0.083, 0.188, 0.834). The Ni atom is six-co-ordinated octahedrally by four NH<sub>2</sub> groups and two NCS groups the latter opposite each other. The lines SCN-Ni-NCS are almost straight. The distances are Ni-N =  $2.07 \pm 0.03$ , Ni-NH<sub>2</sub> =  $2.15 \pm 0.02$ , N-C =  $1.20 \pm 0.05$ , C-S =  $1.61 \pm 0.04$  KX. The NH<sub>2</sub> groups do not form a perfect square but lie at 3.08 and 3.00 KX from each other. The molecules lie in close packed layers parallel to the 201 plane. Acknowledgments to V.I. Belova and V.A. Koptsik. There are 16 references, 6 of which are Slavic, 8 figures and 3 tables.

ASSOCIATION: Moscow State University im. M.V. Lomonosova.  
Card 2/2 (Moskovskiy Gos. Universitet im. M.V. Lomonosova)  
SUBMITTED: December 14, 1956.  
AVAILABLE: Library of Congress

*Yukhno, E.K.* 70-3-8/20  
AUTHOR: Poray-Koshits, M.A., *Yukhno, E.K.*, Antsishkina, A.S. and  
Dikareva, L.M.  
TITLE: The atomic crystals structure of complex acido-amine  
nickel compounds. (Atomnaya struktura kristallov kompleks-  
nykh soyedineniy nikelya atsidoaminovogo tipa)  
PERIODICAL: "Kristallografiya" (Crystallography), 1957,  
Vol.2, No.3, pp. 371 - 381 (U.S.S.R.)

ABSTRACT: The purposes of the investigations were to find the co-  
ordination number of the nickel atom and determine the posit-  
ion of the acid residuals X in compounds of the  $NiA_4X_2$  type;  
to determine the general character of the structure of thio-  
cyanate-amine compounds (ionic salts, double molecular com-  
pounds, complex compounds), which fall out at different sol-  
ution concentrations; to establish analogies and differences  
in interatomic distances from nickel to addendum in different  
compounds; to find the configuration and orientation of thio-  
cyanate groups, to determine the inter-atomic distances and  
the nature of N...C and C...S bonds.

The investigation of the above mentioned compounds belongs,  
as a compound part, to the systematic study of crystal chem-  
istry of complex nickel compounds. It is of interest both in  
point of the theory of complex compounds in general and because

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The atomic crystals structure of complex acido-amine nickel compounds. (Cont.)

it may well give an explanation for the peculiar properties of complex nickel compounds in particular.

Crystal  $\text{Ni}(\text{C}_5\text{H}_5\text{N})_4\text{X}_2$ , where  $\text{X} = \text{Cl}, \text{Br}$  and  $\text{NCS}$ , are not isomorphous. The results of the investigations of tetragonal crystals  $\text{Ni}(\text{C}_5\text{H}_5\text{N})_4\text{Cl}_2$  were published earlier.

Crystals of  $\text{Ni}(\text{C}_5\text{H}_5\text{N})_4\text{Br}_2$  are orthorhombic; space group  $\text{Pna}$ ;  $a = 15.8$ ,  $b = 9.3$ ,  $c = 14.2 \pm 0.1 \text{ kX.}$ ;  $\sigma = 1.67 \text{ g/cm}^{-3}$ ;  $N = 4$ .

Crystals of  $\text{Ni}(\text{C}_5\text{H}_5\text{N})_4(\text{NCS})_2$  are monoclinic; the space group  $\text{G2/c}$  or  $\text{Cc}$ ;  $a = 12.3$ ,  $b = 13.2$ ,  $c = 16.2 \pm 0.1 \text{ kX.}$ ,  $\beta = 120^\circ$ ;  $\sigma = 1.4 \text{ g/cm}^{-3}$ ;  $N = 4$ .

In both cases the structure investigation was carried out by means of Patterson projections, 'weighted' (generalised) Patterson projections of the first layer lines, with subsequent calculation of centrosymmetrical projections of electron density.

In both cases residuals  $\text{Br}$  and  $\text{NCS}$  are bound directly with nickel atoms and lie in transposition to each other.

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Crystal  $\text{Ni}(\text{NH}_3)_4\text{X}_2$ , where  $\text{X} = \text{NO}_2$  and  $\text{NCS}$ , are isomorphous; space group  $\text{G2/m}$ ;  $N = 2$ .



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The atomic crystals structure of complex acido-amine nickel compounds. (Cont.)

In the first compound  $a = 10.77$ ,  $b = 6.85$ ,  $c = 6.12 \pm 0.02$  kX.  $\beta = 128^\circ$ ;  $\sigma = 1.72$  g/cm<sup>3</sup>; in the second  $a = 11.46$ ,  $b = 8.18$ ,  $c = 5.68 \pm 0.02$  kX.,  $\beta = 105^\circ$ ;  $\sigma = 1.55$  g/cm<sup>3</sup>.

The structural type of crystals was determined from Patterson projections and electron-density projections. A more precise determination of inter-atomic distances was achieved with the help of 'weighted' electron-density projections of the first layer line; in the final stage, electron-density sections were used. In both compounds acid residuals NO<sub>3</sub> and NCS belong to the inner region of the complex. The molecular six-coordinated octahedral arrangement of the addenda seems to be typical of all nickel compounds of the NiA<sub>4</sub>X<sub>2</sub> type, in contra-distinction to the similar Pd and Pt compounds, whose structure is (MA<sub>4</sub>)X<sub>2</sub>.

Card 3/7 The results of structure investigation of crystals Ni(NCS)<sub>2</sub> · 3NH<sub>3</sub> have already been published (M.A. Poray-Koshits, Proc. Inst. Crystallogr. 1954, 10, 117). The molecular complexes Ni(NH<sub>3</sub>)<sub>3</sub>(NCS)<sub>2</sub> have the shape of tetrahedral pyramids with Ni atoms in the centre of the base.

Trigonal crystals Ni(NCS)<sub>2</sub> · NH<sub>4</sub>NCS · 3NH<sub>3</sub> possess considerable piezoelectricity; space group P321;  $a = 10.2$   $c = 11.13 \pm 0.02$

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The atomic crystals structure of complex acido-amine nickel compounds. (Cont.)

$kX.$ ; =  $1.495 \text{ g/cm}^{-3}$ ;  $N = 3$ . The structure is determined with the help of Patterson-function projections and Harker sections at heights  $1/3$  and  $0$  parallel to  $(001)$  and also by using electron-density projections along the second-order axis. The atoms are surrounded octahedrally by three molecules  $NH_3$  and three groups NCS after the design a-a, b-b, a-b (edge isomer). Complex anions  $[Ni(NH_3)_3(NCS)_3]$  are arranged according to cubic close packing, in the octahedral interstices of which ions  $NH_4^+$ , surrounded by six sulphur atoms, are to be found.

Crystals  $Ni(NCS)_2 \cdot 2NH_4NCS \cdot 2NH_3 \cdot H_2O$ , which belong to the cubic system, also possess piezoelectricity; space group  $I23$ ;  $a = 13.41 \pm 0.02 \text{ kX.}$ ,  $\sigma = 1.523 \text{ g/cm}^{-3}$ ;  $N = 6$ . Six octahedral complex ions  $trans-[Ni(NH_3)_2(NCS)_4]^{2-}$  are arranged in all the corners of the eight cubes with edges  $1/2a$ , except the points  $0, 0, 0$  and  $1/2, 1/2, 1/2$ ; these two are occupied by water molecules.

Eight cations  $NH_4^+$  are in the centres of the same cubes and are surrounded octahedrally by sulphur atoms of the thiocyanate group. The remaining four ammonium groups, together with four

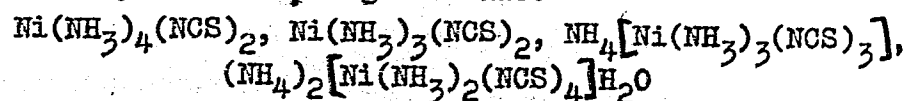
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The atomic crystals structure of complex acido-amine nickel compounds. (Cont.)

polar water molecules, form two tetrahedra around two water molecules in the corners of the cubes 0, 0, 0 and 1/2, 1/2, 1/2.

Thus, all the thiocyanate-amine nickel compounds that fall out of the solution are complex in structure type and must be described by the following formulae:



We succeeded in determining all inter-atomic nickel-addendum distances with sufficient precision only in centro-symmetrical structures. The distances are entered in Table 2, p.378, showing that in  $\text{Ni}(\text{C}_5\text{H}_5\text{N})_4\text{Cl}_2$  and  $\text{Ni}(\text{NH}_3)_3(\text{NCS})_2$  all the nickel-addendum bonds are of covalent character.

The Ni-S distance in the second compound is the contact of different molecules, which completes the nickel co-ordination to six.

The Ni-Br and Ni-NCS distances in bromine- and thiocyanate-pyridine complexes, equal to 2.58 and 2.0 kX., also correspond to covalent bonds.

Card 5/7 In spite of the isomorphism of  $\text{Ni}(\text{NH}_3)_4(\text{NCS})_2$  and

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The atomic crystals structure of complex acido-amine nickel compounds. (Cont.)

$\text{Ni}(\text{NH}_3)_4(\text{NO}_2)_2$ , the relation between inter-atomic metal-addendum distances is quite different, In the first case it is the distances to four neutral substitutes that are increased; in the second, the distances to two acid residuals. Somewhat shortened distances between groups  $\text{NO}_2$  and oxygen atoms of neighbouring molecules in  $\text{Ni}(\text{NH}_3)_4(\text{NO}_2)_2$  lead us to suppose the

existence of weak inter-molecular hydrogen bonds. The abnormal colour of this compound may be accounted for by these structure peculiarities.

All the compounds containing NCS groups are isothiocyanates. In all cases linear groups NCS lie on one straight line with the Ni-N bond direction.

Group dimensions: in  $\text{Ni}(\text{NH}_3)_3(\text{NCS})_2$ ,  $\text{N}_I - \text{C}_I = 1.15 \pm 0.05$ ,  $\text{C}_I - \text{S}_I = 1.64 \pm 0.04$ ,  $\text{N}_{II} - \text{C}_{II} = 1.12 \pm 0.05$ ,  $\text{C}_{II} - \text{S}_{II} = 1.70 \pm 0.04$  Å kX.; in  $\text{Ni}(\text{NH}_3)_4(\text{NCS})_2$ ,  $\text{N} - \text{C} = 1.20 \pm 0.05$ ,  $\text{C} - \text{S} = 1.61 \pm 0.04$  kX.

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In spite of the varying distances it is obvious that the N - C bond becomes shorter, and C - S longer, as compared to

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The atomic crystals structure of complex acido-amine nidel compounds. (Cont.)

corresponding distances in methyl-isothiocyanate ( $N = C = 1.22$ ,  $C = S = 1.56$  kX.). There is no doubt that, at least, in the first of these two compounds the  $N \dots C$  bond must be characterised as triple, and the  $C \dots S$  bond as single. (Slightly condensed translation). There are 5 figures, 3 tables and 16 references, 11 of which are Slavic.

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M.V. Lomonosov.

SUBMITTED: February 22, 1957.

AVAILABLE: Library of Congress  
Card 7/7

YUKHNO, E.K.

Synthesis and characteristics of crystals of some new ammonium  
thiocyanate compounds of nickel. Zhur.neorg.khim. 7 no.4:807-  
810 Ap '62. (MIRA 15:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
(Nickel compounds) (Ammonium thiocyanate)

Country : USSR  
CATEGORY : Weeds and Their Control  
ABS. JOUR. : RZBiol., No. 12, 1958, No. 53938  
AUTHOR : Yukhno, G.Ya.; Vorov'yev, N.Ye.  
INST. : Not given  
TITLE : Chemical Weeding

ORIG. PUB. : Agrobiologiya, 1957, No. 2, 132-133

ABSTRACT : At Izmail'skiy Experimental Field (Odesskaya Oblast) and under industrial production conditions in the kolkhozes and sovkhoses of Artsizskiy Rayon chemical weeding with 2,4-D herbicide sharply decreased the weed choking in the fields and boosted the grain crop yields. A water sol. of the herbicide was sprayed in dosages of 0.6, 0.8 and 1.2 kg/ha of active matter. --T.L. Rivkind

*Izmail'skoye opnoye pole.*

CARD:

1/1

YUKHNO, G.Ya.

For high corn yields. MTO 3 no.4:6 Ap '61. (MIRA 14:3)

1. Predsedatel' Dnepropetrovskogo oblastnogo pravleniya  
Nauchno-tekhnicheskogo obshchestva sel'skogo i lesnogo khozyaystva.  
(Dnepropetrovsk Province--Corn (Maize))



L 08339-67 EWT(m)/EWP(t)/ETI/EWP(k) IJP(o) JD/HW/WB

ACC NR: AR6033103

SOURCE CODE: UR/0137/66/000/007/G028/G029

AUTHOR: Gol'dfarb, V. M.; Kostygov, A. S.; Yukhno, M. M.; Stepanov, A. V.

TITLE: Obtaining <sup>27</sup>copper, <sup>6</sup>brass, and <sup>6</sup>bronze rods directly from the melt 40

SOURCE: Ref. zh. Metallurgiya, Abs. 7G236

REF SOURCE: Uch. zap. Leningr. gos. ped. in-ta im. A. I. Gertsena, v. 265, 1965, 144-150

TOPIC TAGS: molten metal, drawing, rod drawing

ABSTRACT: Laboratory experiments have been carried out for producing rods from copper, bronze, and brass by drawing directly from the melt.<sup>10</sup> The process of drawing is similar to that for aluminum alloys. The drawing equipment consists of an induction furnace with a vacuum-tube generator and a graphite-fireclay crucible; a protective atmosphere is recommended so as to ensure a smooth surface and minimize both oxidation and burning out the alloy components. Orig. art. has: 2 figures and 1 table. Bibliography of 6 titles. [Translation of abstract]

SUB CODE: 11/

Cord 1/1 nst

UDC: 669.3.04

USSR/Farm Animals - General Problems.

Q

Abs Jour : Ref Zhur - Biol., No 15, 1958, 69216

Author : Yukhno, M. Yu.

Inst : -

Title : Protein Feeding of Farm Animals

Orig Pub : Byul. sil'skogospod. inform., 1957, No 1, 41-42

Abstract : No abstract.

Card 1/1

ACC NR: AR7002228 (AN) SOURCE CODE: UR/0275/66/000/010/V028/V028

AUTHOR: Yezhkov, B. A.; Yukhno, N. Ya.

TITLE: High-speed electronic shielding in high power high-voltage rectifiers and electron-tube oscillators

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 10V187

REF SOURCE: Elektrotermiya. Nauchno-tekhn. sb., vyp. 49, 1966, 17-19

TOPIC TAGS: electronic shielding, electronic oscillator thyatron, ~~high-voltage~~  
rectifier, circuit design

ABSTRACT: This shielding device contains seven thyratrons and is fitted with a high-voltage rectifier cutoff and d-c load shunting. The high-voltage rectifier has a cutoff time  $< 14$  m sec for the moment of breakdown, to cutoff of current flow through the rectifier. The pulse of the emergency current has a maximum value of 20% of the short circuit current of the anode transformer. A noninductive 0.4-ohm resistor connected to the high-voltage rectifier output is used as the emergency current pickup. At the moment of failure, the d-c load is shunted by the shielding thyatron. Flow time for the emergency current through the load is limited only by

Card 1/2

UDC: 621.314.61

ACC NR: AR7002228

the ignition time of this thyatron. A description is given of the main circuit of the shielding device developed for high-frequency units of optical glass making in which ruptures in the crucible cause frequent generator failure. [Translation of abstract] [GC]

SUB CODE: 09

Card 2/2

YUKHNO, P.V.

Device for placing cornice slabs. Rats. 1 izobr. predl. v stroi. no.130:  
15-16 '56. (Cornice work) (MIRA 9:9)

YUKHNO, R.A.

Some studies related to elementary functions. Uch. zap. MOPI  
123:259-275 '63. (MIRA 17:4)

YUKHNO, S.

Continuous process. Prom.koop. 14 no.9:11 S '60. (MIRA 13:9)

1. Predsedatel' pravleniya arteli im. Rozy Lyuksemburg, g.Simfe-  
ropol'.

(Moscow--Clothing industry)

YUKHNO, V.P., assistant

Some functional changes in the liver in rheumatic children. Ped.,  
akush. i gin. 19 no.6:31-36 '57. (MIRA 13:1)

1. Kafedra gospiatal'noy pediatrii (sav. - chlen-korrespondent AMN  
SSSR, prof. O.M. Khokhol) Kiyevskogo ordena Trudovogo Krasnogo Znan-  
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(RHEUMATIC FEVER) (LIVER)



YUKHNO, V. P., Cand Med Sci — (diss) "Changes of certain functions of the liver in the active phase of rheumatism in children," Odessa, 1960, 18 pp (Odessa State Medical Institute im N. I. Pirogov) (KL, 35-60, 126)

YUKHNO, V.P.; KARMAZINA, N.Ya.; ROGOL', M.G.

Colibacillosis in infants. Zdravookhranenie 5 no.3:20-24 My-Je  
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1. Iz kafedry gosspital'noy i fakul'tetskoy pediatrii (zav. -  
dotsent P.S.Sosnova) Kishinevskogo meditsinskogo instituta i  
Detskoy respublikanskoy klinicheskoy bol'nitsy (glavnyy vrach  
S.S.Strungaru).

(ESCHERICHIA COLI) (INFANTS--DISEASES)

YUKEN, V.S.; FILONOV, K.P.; KAPLIN, V.M.

Barguzin State Preserve. Okhr. prir. Sib. i Dal'. Vest.  
no.1:187-192 '62. (MIRA 17:5)

KOPIT, B.S.; MIKHAYLOV, A.V.; CHLENOV, A.F.; IDOV, P.I.; YUEHNOV, I.I.;  
TSARSKIY, S.V.; BARANOV, V.A.; PETROV, A.I.; LIPSHITS, L.Z.;  
ABATUROV, K.I.; SOKOL'SKAYA, Zh.M.; MEZHEVICH, V.M.; DEYDOV,  
L.I.; VLASIKHIN, A.V.; CHEKALOV, L.N.; STARICHKOV, T.I.;  
KHUBLAROV, A.Ye., red.; PITERMAN, Ye.L., red. izd-va; PAREKHINA,  
N.L., tekhn. red.

[Our beacons; collection of articles on progressive workers in  
lumber, paper, woodworking industries and forestry] Nashi maiaki;  
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Goslesbumizdat, 1961. 125 p. (MIRA 15:2)  
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